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EXAMINER

SHARMA, SUJATHA R

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/454,124
Filing Date: December 03, 1999
Appellant(s): SEPPANEN, JORMA ANTERO

Robert H. Kelly
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/30/2004.

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(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

No amendment after final has been filed.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 1-15 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

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(9) Prior Art of Record

5,809,414	Coverdale et al.	9-1998
6,167,259	Shah	12-2000
6,243,568	Detlef	6-2001
2,275,848	Champness	9-1994
6,219,540	Besharat	4-2001
5,802,039	Obayashi	9-1998

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdale [US 5,809,414] (hereafter Coverdale) in view of Shah [US 6,167,259] (hereafter Shah).

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Regarding claims 1,13 Coverdale discloses the method of indicating the quality of a received signal at a mobile phone comprising the steps of receiving a signal from a remote transmitter at the mobile phone; inspecting said received signal for determining quality (either RSSI or BER measurements); and providing an output correlated to the results of said inspecting step and further providing a user discernible indication in response to said output (See summary of invention, col.3, line 23-col.4, line 21).

Coverdale further teaches comparing the received signal with a predetermined threshold, and generating a first output whenever the comparing step has met said threshold and for otherwise generating a second output different from said first output (See summary of invention, col.3, line 23-col.4, line 21).

However Coverdale does not disclose that the signal quality is indicated in terms of an acceptable percentage.

In same field of endeavor, Shah discloses a wireless communication system for evaluating the quality of service in a wireless communication system by analyzing the BER percentage. See summary of invention.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Coverdale in view of Shah such that the signal quality indicated and displayed to the user is in terms of an acceptable percentage since the manner in which the signal quality is indicated lacks criticality in view of the overall function of the invention.

Regarding claims 3,15 Coverdale in view of Shah discloses all the limitations of claim 2.

Coverdale further discloses use with a digital transmission and receiving system wherein the

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inspecting step includes the step of determining the BER/RSSI of the received signal over a sampling period (see summary of invention, col.4, lines 29-36).

3. Claims 4-7,10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdale [US 5,809,414] in view of Shah [US 6,167,259] and further in view of Detlef [US 6,243,568] (hereafter Detlef).

Regarding claim 4, Coverdale in view of Shah discloses all the limitations of claim 3. Coverdale does not expressly disclose a predetermined time-out period. Detlef does teach ensuring that the received signal has failed to meet the threshold value for a predetermined time-out period before generating the output indicative of such a failure. (col. 5, lines 64-67; col. 7, lines 21-38) Since Coverdale in view of Shah and Detlef both teach methods in which a receiver inspects a received signal for determining its quality, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Coverdale and Shah according to the teachings of Detlef by ensuring that the received signal has failed to meet the threshold value for a predetermined time-out period before generating the output indicative of such a failure so that the user would not be alerted to lapses in signal quality that are only temporary.

Regarding claim 5, Coverdale in view of Shah discloses all the limitations of claim 1. Detlef further teaches the step of establishing a visual indicator for said user discernible indication (col. 5, lines 45-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to enhance the method of Coverdale and Shah by establishing a visual indication as taught by Detlef so that a user could have access to the indication simply by looking at a display.

Regarding claim 6, Coverdale discloses the method of indicating the quality of a received signal at a mobile phone comprising the steps of receiving a signal from a remote transmitter at the mobile phone; inspecting said received signal for determining quality (either RSSI or BER measurements); and providing an output correlated to the results of said inspecting step and further providing a user discernible indication in response to said output (See summary of invention, col.3, line 23-col.4, line 21).

However Coverdale does not disclose that the signal quality is indicated in terms of an acceptable percentage.

In same field of endeavor, Shah discloses a wireless communication system for evaluating the quality of service in a wireless communication system by analyzing the BER percentage. See summary of invention.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Coverdale in view of Shah such that the signal quality indicated and displayed to the user is in terms of an acceptable percentage since the manner in which the signal quality is indicated lacks criticality in view of the overall function of the invention.

Coverdale and Shah do not disclose the method of separating control signals from voice signals. Detlef teaches a method of separating the Voice and control signals that are received in a time division multiplexed format. (col. 2, lines 36 - 50; Figure 2; col. 3, lines 29 - 45; col. 4, lines 36 - 57; Figure 3, element 58).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the teachings of Detlef to Coverdale and Shah in order to evaluate the traffic channel more accurately.

Regarding claim 7, Shah further disclose the method wherein the inspecting step includes the step of quantifying the amount, in terms of the percentage acceptable, by which the voice signal fails to meet the predetermined threshold. See table 2.

Regarding claim 10, Coverdale further discloses a user discernible audio signal indicating the voice signal quality (see summary of invention).

Regarding claim 11, Coverdale further discloses a variation in the audio signal indicating the voice signal quality as the voice signal quality departs from the predetermined threshold (see col 4., lines 1-10).

Regarding claim 12, Coverdale in view of Shah discloses all the limitations of claim 6. Coverdale does not expressly disclose a predetermined time-out period. Detlef does teach ensuring that the received signal has failed to meet the threshold value for a predetermined time-out period before generating the output indicative of such a failure. (col. 5, lines 64-67; col. 7, lines 21-38) Since Coverdale in view of Shah and Detlef both teach methods in which a receiver inspects a received signal for determining its quality, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Coverdale and Shah according to the teachings of Detlef by ensuring that the received signal has failed to meet the threshold value for a predetermined time-out period before generating the output indicative of such a failure so that the user would not be alerted to lapses in signal quality that are only temporary.

4. Claims 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdale [US 5,809,414] in view of Shah [US 6,167,259] and further in view of Champness [GB 2 275 848].

Regarding claim 5, Coverdale in view of Shah discloses all the limitations of claim 1. However they do not disclose a method of providing a visual indication of the signal quality. Champness teaches the step of establishing a visual indicator for said user discernible indication (See Fig. 7A). It would have been obvious to one of ordinary skill in the art at the time the invention was made to enhance the method of Coverdale and Shah by establishing a visual indication as taught by Champness so that a user could have access to the indication simply by looking at a display.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdale and Shah in view of Detlef as applied to claim 6 above, and further in view of Besharat et al. (hereafter Besharat), U.S. Patent No. 6,219,540.

Regarding claim 8, Coverdale in view of Shah and in view of Detlef discloses all the limitations of claim 6. Besharat further teaches that said user discernible step includes the step of causing a visible display to pulsate in the form of blinking (col. 4, lines 49 - 57), which is not disclosed by Coverdale. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further enhance the method of Coverdale and Shah in view of Detlef by providing a pulsating visible display as taught by Besharat so that the blinking of the display might draw the user's attention to the display, or so that a different message or indication could alternately be displayed.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coverdale and Shah in view of Detlef and further in view of Besharat as applied to claim 8 above, and further in view of U. S. Patent No. 5,802,039 to Obayashi et al.

Regarding claim 9, Coverdale in view of Shah in view of Detlef and in view of Besharat does not teach that the pulsation is correlated to the amount the received voice signal departs from the predetermined threshold level. Obayashi discloses a mobile radio communication apparatus, in which the BER of a received signal is measured and displayed (col. 4, lines 51 - 60). If the BER reaches a certain threshold, the display blinks. Also, the speed of the blinking is changed in accordance with the value of the BER (col. 13, lines 32 - 35, 59 - 62). Since Coverdale, in view of Shah, Detlef and Obayashi all teach measurement of signal quality by a mobile communication device, and the pulsating of a visible display which gives an indication that signal quality has fallen below a threshold, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Coverdale in view of Shah in view of Detlef and in view of Besharat such that the speed of the blinking of the display would correlate with the amount that the received signal departs from the predetermined threshold, as taught by Obayashi, so that the user could clearly notice the state of the received voice signal by glancing at the display.

Response to Arguments

Appellant's arguments with respect to Group A, claims 1,3,13 and 15 have been fully considered but they are not persuasive.

(A) The appellant argued (page 6, paragraph 4) that Coverdale fails to disclose a method of providing an output depending upon the comparison of a received signal with a predetermined threshold.

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In response to applicant's arguments (A) the examiner respectfully disagrees with the appellant's arguments. Appellant is again drawn to Coverdale reference, which discloses

“ a method where when the signal quality falls below threshold 2, an alerting indication (output of first type) is generated and if the signal strength further falls below threshold 1, a warning indicating imminent reduction of voice quality starts (output of second type) (See col. 3, lines 47-59) which reads on the limitation of comparing the received signal with a predetermined threshold, and generating a first output whenever the comparing step has met said threshold and for otherwise generating a second output different from said first output and providing an output correlated to the results of said inspecting step and further providing a user discernible indication in response to said output.

Further the appellant argues (page 6, paragraph 2) that Coverdale discloses a method of introducing noise to the signal based on the signal quality analysis. However, it is inherent in the system that a static noise is generated whenever the signal quality degrades and thus is an audio indicator to the user and gives an intuitive sense of the received signal quality.

The appellant further argues (page 6, paragraphs 3,5) that the secondary reference Shah does not teach a method of providing an indication to the user for any degradation of the signal quality and also the Shah reference discloses a system for balancing the forward and reverse links.

However, the examiner has relied on the Shah reference for the teaching of “evaluating the quality of service in a wireless communication system by analyzing the BER percentage”. See col. 5, lines 10-39 which reads on the claim limitation that the signal quality is indicated in terms of an acceptable percentage.

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Though the Shah reference teaches a method to balance the forward and reverse links, it is done by evaluating the quality based on BER percentage and it is this teaching of evaluating the signal strength in terms of BER percentage that is used to combine with Coverdale to produce the desired output i.e. BER percentage.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Coverdale in view of Shah such that the signal quality indicated to the user is in terms of an acceptable percentage since the manner in which the signal quality is indicated lacks criticality in view of the overall function of the invention. The cited limitation calls for “indicating” which is read in Coverdale reference (see col. 3, lines 23-39).

Therefore the rejections of claims 1, 3,8,9,13, and 15 as discussed above are considered proper.

Appellant’s arguments with respect to Group B, claims 4-7 and 10-12 have been fully considered but they are not persuasive

(B) The appellant argued (page 7, group B) that the Detlef reference does not disclose a method to meet the threshold value for a pre-determined time before generating the output indicative of a failure.

In response to applicant’s argument **(B)** the examiner respectfully disagrees with the appellant’s arguments. Appellant is drawn to the Detlef reference which teaches a method where “a signal quality is received and if the quality is poor in a given time period, the warning feature is activated”. See col. 7, lines 9-20, col. 5, lines 64-67; This reads on the claim limitation of a predetermined time-out period before generating the output indicative of such a failure.

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Since Coverdale in view of Shah teach methods in which a receiver inspects a received signal for determining its quality, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Coverdale and Shah according to the teachings of Detlef by ensuring that the received signal has failed to meet the threshold value for a predetermined time-out period before generating the output indicative of such a failure so that the user would not be alerted to lapses in signal quality that are only temporary.

Therefore the rejections of claims 4-7,10-12 as discussed above are considered proper.

Appellant's arguments with respect to Groups (C), (D), (E) claims 5,8,9 respectively have been fully considered but they are not persuasive


Appellant arguments for Groups (C), (D), (E) are similar to those set forth for Group (A) and therefore the response discussed in Group (A) also holds good for Groups (C), (D), (E).

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

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July 29, 2004

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